

## CLAIMS

We claim:

1. A wearable load supporting system comprising:  
a rigid back plate for attachment to a user's back, the back plate having an upper  
5 segment and a lower segment which extends downwardly and rearwardly  
from the upper segment;  
a waist belt which is positioned frontwardly of the back plate lower segment;  
a rigid waist plate fixed to the waist belt;  
a cushion mounted to the waist belt frontwardly of the of the waist plate;  
10 portions of the rigid back plate lower which define a frontwardly facing first  
friction load transfer surface; and  
portions of the rigid waist plate which define a rearwardly facing second friction  
load transfer surface, the second friction load transfer surface being  
releasably engaged with the first friction load transfer surface, such that  
15 sliding motion between the back plate and the waist plate are restricted  
by the friction load transfer surfaces, without restricting the pulling away  
of the back plate from the waist plate in a direction generally  
perpendicular to the engaged friction load transfer surfaces.
2. The wearable load supporting system of claim 1 further comprising a  
20 pack releasably connected to the back plate upper segment.
3. The wearable load supporting system of claim 2 wherein the back plate is  
fastened to a shell having shoulder straps extending frontwardly from the back plate,  
and further comprising a plurality of straps which extend between the pack and the  
shell.

4. The wearable load supporting system of claim 1 wherein the first friction load transfer surface and the second friction load transfer surfaces are defined by sections formed of a material selected from the group consisting of artificial rubber, natural rubber, urethane, and highly textured mechanical structure material.

5 5. The wearable load supporting system of claim 1 wherein an angle is defined between the back plate upper segment and the back plate lower segment which is less than 180 degrees and more than 90 degrees.

6. The wearable load supporting system of claim 5 wherein the angle defined between the back plate upper segment and the back plate lower segment is about  
10 120 degrees.

7. A load supporting system for wearing by a user having a back and a waist, the system comprising:

a shell having shoulder straps;

a rigid back plate connected to the rear of the shell, the back plate having an upper segment extending downwardly and positioned rearwardly of the user's back, and a lower segment which extends downwardly from the back plate upper segment to be rearward of the user's waist;

a waist belt for positioning about the user's waist;

a rigid waist plate fixed to the waist belt rearwardly of the user's waist and in a position to face the lower segment of the back plate;

portions of the back plate lower segment which define a frontwardly facing first friction load transfer surface; and

portions of the waist plate which define a rearwardly facing second friction load transfer surface, the second friction load transfer surface being releasably engaged with the first friction load transfer surface, such that sliding motion between the back plate and the waist plate are restricted by the friction load transfer surfaces, without substantially restricting the pulling away of the back plate from the waist plate in a direction generally perpendicular to the engaged friction load transfer surfaces.

8. The wearable load supporting system of claim 7 further comprising a pack releasably connected to the back plate upper segment.

9. The wearable load supporting system of claim 8 further comprising a plurality of straps which extend between the pack and the shell.

10. The wearable load supporting system of claim 7 wherein the first friction load transfer surface and the second friction load transfer surfaces are defined by sections formed of a material selected from the group consisting of artificial rubber, natural rubber, urethane, and highly textured mechanical structure material.

5 11. The wearable load supporting system of claim 7 wherein an angle is defined between the back plate upper segment and the back plate lower segment which is less than 180 degrees and more than 90 degrees.

10 12. The wearable load supporting system of claim 11 wherein the angle defined between the back plate upper segment and the back plate lower segment is about 120 degrees.